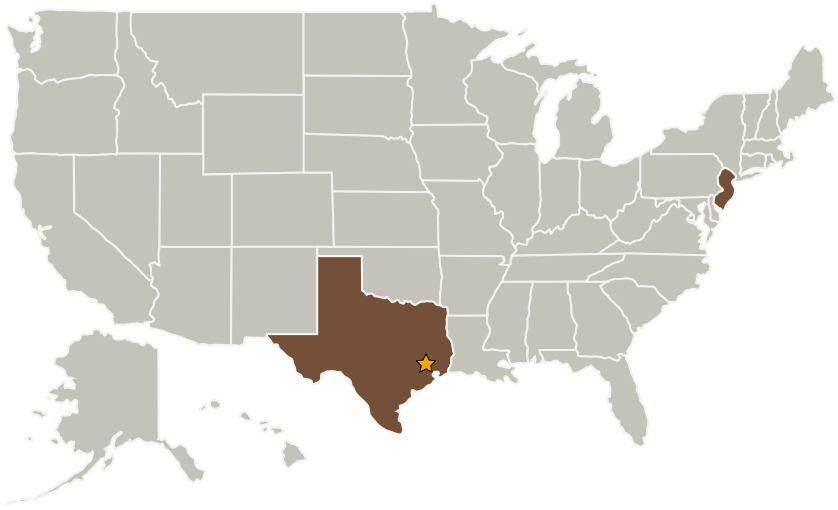
Design of Versatile Food Extruder, Phase I

Completed Technology Project (2004 - 2004)

Project Introduction

This proposal addresses the need for food processing equipment for crews on long-term Advanced Life Support Systems (ALSS) missions. It is proposed to design a food extruder that will efficiently process wheat and rice flour into breakfast-cereal-type food. In addition, the design will incorporate an oil extraction system for peanuts, and a milling/grinding system for wheat, rice, soybean and peanuts. The design of this food processing system will rely on the use of a single lightweight motor, with interchangeable attachments to do the extrusion, oil extraction, and milling/grinding. This work will merge the extruder-building expertise of Wayne Machine & Die Co. with the food processing expertise of Rutgers University's Food Science team to produce a unique and versatile food processor design for the planetary surface missions. The deliverable of this project will be a complete engineering design of a food processing system, including AutoCAD drawings from which the hardware could be manufactured in a Phase II contract.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Wayne Machine & Die Company	Supporting Organization	Industry	Totowa, New Jersey

Design of Versatile Food Extruder, Phase I

Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Design of Versatile Food Extruder, Phase I

Completed Technology Project (2004 - 2004)

Primary U.S. Work Locations	
New Jersey	Texas

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Gary Lischak

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.6 Human Systems Integration
    - TX06.6.3 Habitability and Environment